

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Rotor means for~~ A centrifuging reaction ~~vessels containing~~ vessel assembly for mixing reaction mixtures, comprising ~~[[in]]~~ a rotor means ~~device~~ for asymmetric heating and cooling of the reaction mixtures during centrifugation, ~~characterised in that the~~ said rotor means supporting ~~(5) are adapted for centrifuging reaction mixtures arranged in~~ at least one microtitre plate ~~(12) and comprise/-s~~ for centrifuging reaction mixtures, said rotor means including at least one fan blade ~~(18), which force~~ for directing ambient gas to pass in heat exchange relationship with said at least one microtitre plate ~~the reaction mixtures.~~

2. (Currently Amended) The assembly of claim 1, further comprising ~~Rotor means according to claim 1, wherein~~ at least one gas conducting passage ~~[[the]]~~ said rotor means ~~[[the]]~~ to conduct for allowing the ambient gas to pass the reaction mixtures.

3. (Currently Amended) The assembly of claim 1 ~~Rotor means according to claim 1~~, wherein ~~[[the]]~~ said rotor means ~~(5)~~ comprise/-s further includes a base portion ~~[[6]]~~ and a lid portion, defining ~~(7)~~, ~~in between which~~ an inner space there between in which said at least one fan blade is ~~(17) is formed~~ wherein the fan blade/-s ~~(18) are~~ arranged.

4. (Currently Amended) The assembly of claim 1 ~~Rotor means according to claim 1~~, wherein ~~[[the]]~~ a lower region of ~~[[the]]~~ said rotor means ~~[[5]]~~ is provided with at least one through hole ~~[[19]]~~ ~~through which~~ throughwhich the ambient gas ~~[[may]]~~ can be drawn.

5. (Currently Amended) The assembly of claim 1 ~~Rotor means according to claim 1~~, wherein ~~[[the]]~~ an upper region of ~~[[the]]~~ said rotor means ~~[[5]]~~ is provided with at least one through hole ~~[[20]]~~ ~~through which~~ throughwhich the ambient gas is let out.

6. (Currently Amended) The assembly of claim 3 ~~Rotor means according to claim 3~~, wherein ~~the fan blade/-s (18) are~~ said at least one fan blade is arranged at ~~[[the]]~~ an inside of ~~[[the]]~~

said base portion ~~(6) of the of said~~ rotor means ~~[[5]]~~.

7. (Currently Amended) The assembly of claim 3, Rotor means according to claim 3, wherein the fan blade/-s ~~(18)~~ are said at least one fan blade is arranged at a bottom of the inside the said lid portion at a side which faces an inner space ~~(7) of the formed between said base portion and said lid portion of said~~ rotor means ~~[[5]]~~.

8. (Currently Amended) The assembly of claim 2, Rotor means according to claim 2, wherein ~~[[the]]~~ said at least one gas conducting passage is arranged to conduct the ambient gas between ~~[[the]]~~ reaction mixture-containing wells ~~[(15)]~~ of ~~[[the]]~~ said at least one microtitre plate ~~[(12)]~~.

9. (Currently Amended) The assembly of claim 1 Rotor means according to, wherein further comprising a plate ~~(11), is~~ arranged to support ~~[[the]]~~ said at least one microtitre plate.

10. (Currently Amended) The assembly of claim 9 Rotor means according to claim 9, wherein ~~[[the]]~~ said plate ~~[(11)]~~ has indentations corresponding to ~~[[the]]~~ apices of ~~[[the]]~~ reaction mixture-containing wells of the microtitreplate said microtitre

plate.

11. (Currently Amended) The assembly of Rotor means
~~according to~~ claim 1, wherein the ambient gas is ambient air.

12. (Currently Amended) The assembly of Rotor means
~~according to~~ claim 1, further comprising a wherein cooling means
~~(24) is provided to cool the ambient gas for cooling the ambient~~
gas being directed into said rotor means by said at least one fan
blade.

13. (Cancelled)

14. (New) A centrifuging reaction vessel assembly for
mixing reaction mixtures, comprising: a rotor means for
asymmetric heating and cooling of the reaction mixtures during
centrifugation, and said rotor means supporting a plurality of
microtitre plates for centrifuging reaction mixtures, said rotor
means including at least one fan blade for directing ambient gas
to pass in heat exchange relationship with said plurality of
microtitre plates.

Remarks/Arguments

In response to the Examiner's objection, replacement drawing sheets with the erasures removed are being submitted herewith. It is respectfully submitted herewith that the Examiner's objection to claim 7 have been noted and claim 7 has been amended to claim only features shown in the drawings. As required, a new descriptive title has been added to replace the previous title. In response to the Examiner's request, a new abstract as defined by CFR 1.72(b) is included with this submission. No new matter has been added.

Claims 1-12 remain in the application. It is noted that the Examiner has acknowledged claim 10 is directed to allowable subject-matter. Claim 13 has been cancelled and new independent claim 14 added, which adds claim limitations supported by the specification as filed. No new matter has been added.

The Examiner has objected to claim 12 as being of improper dependency. Specifically, the Examiner asserts that claim 12 should depend from claim 11 as opposed to claim 1 from which it presently depends. However, claim 1 recites an "ambient gas." Thus, claim 1 provides an antecedent basis for "ambient gas" set forth in claim 12. It is respectfully requested that the objection for improper dependency for claim 12 be removed.

The Examiner has rejected claims 1-9, 11 and 13 under 35

U.S.C 102(b), as anticipated by Pickels et al (US 2,878,992).

The Examiner states that the Pickels patent discloses a device for centrifuging, which includes a rotor means with air exchange and reaction vessels containing samples. It is respectfully submitted that the air movement created by the Pickels patent does not perform a claimed element, namely "... at least one fan blade for directing ambient gas to pass in heat exchange relationship with said at least one microtitre plate." As found at col. 3, lines 39-40 of the Pickels patent, "...[t]he nut 87 is shaped to funnel the air into the opening 69..." The opening 69 is located at the center of the rotor means, and therefore, the passage of air is drawn in from the top of the rotor means traveling down the center of the rotor means and out of the bottom of the rotor means. The movement of air within the Pickels patent is described as bringing the rotor means to thermal equilibrium with the outside environment. This movement of air would not come in contact with the test tubes 89.

In contrast to the Pickels patent, the applicant's claimed invention is designed to force air to directly pass the reaction mixtures contained in the microtitre plates. This passage of air over the reaction mixtures serves to not only cool the reaction mixtures but also heat the reaction mixtures, if required.

Likewise, the cooling fins of the Pickels patent which are

arranged inside the axial opening of the rotor means would not be equivalent to the fan blades of the applicant's claimed invention. The cooling fins of the Pickels patent are used to form cooling surfaces over which air may be circulated. This movement of air would not make it possible to cool and heat in a cyclic manner through the metal block of the rotor means. In addition, the temperature change created by the cooling fins would be too slow to effect the necessary changes required by microtitre plates of the applicant's claimed invention.

It is respectfully submitted that the Pickels patent does not recite "... at least one fan blade for directing ambient gas to pass in heat exchange relationship with said at least one microtitre plate" as required by claim 1 or any of the claims depending therefrom of the applicant's claimed invention. Thus the Pickels patent does not anticipate the claimed invention, and therefore, removal of the rejection is respectfully requested.

The Examiner has issued a rejection of claim 12 as being unpatentable over Pickels et al. (US 2,878,992) in view of Kubota (US 4,193,536). However, the combination of these references does not teach every element of. As discussed above, the Pickels patent does not teach a passage of air directly over the microtitre plates. Since Kubota also does not contain "... at least one fan blade for directing ambient gas to pass in heat

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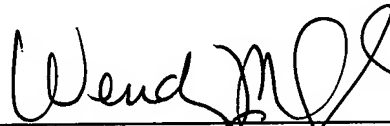
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exchange relationship with said at least one microtitre plate...", the combination of the patents does not teach the applicant's claimed invention. Accordingly, withdrawal of the rejection is respectfully requested.

In view of the foregoing, reconsideration of the claim rejections is respectfully requested and favorable consideration and allowance of the claims solicited. Should the Examiner have any questions regarding this response, the amendments submitted herewith, or the allowability of the claims, it would be appreciated if the Examiner would contact the undersigned agent of record at the telephone number provided below for purposes of facilitating prosecution of this application and for scheduling a follow up interview, if necessary.

Respectfully submitted,

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